

THE ROBUST AND UNIVERSALLY DEPLOYABLE GRID SUBSTATION WITH AN ATTRACTIVE APPEARANCE

GRÄPER

# LIGHTWEIGHT CONCRETE GKP-S1 COMPACT SUBSTATION



## THE ROBUST AND UNIVERSALLY DEPLOYABLE GRID SUBSTATION WITH AN ATTRACTIVE APPEARANCE

Manufactured in accordance with IEC 62271-202  
(VDE 0670-202)

Suitable for use with 630 kVA (optionally 800 kVA)  
transformers

Arc tested with a variety of MV switchgear systems,  
including ABB Safe-Ring / Safe Plus, Ormazabal GAE,  
Schneider FBX and RM6, Siemens 8DJH

Manufactured in accordance with 26th German Federal  
Immission Control Ordinance (BimSchV)

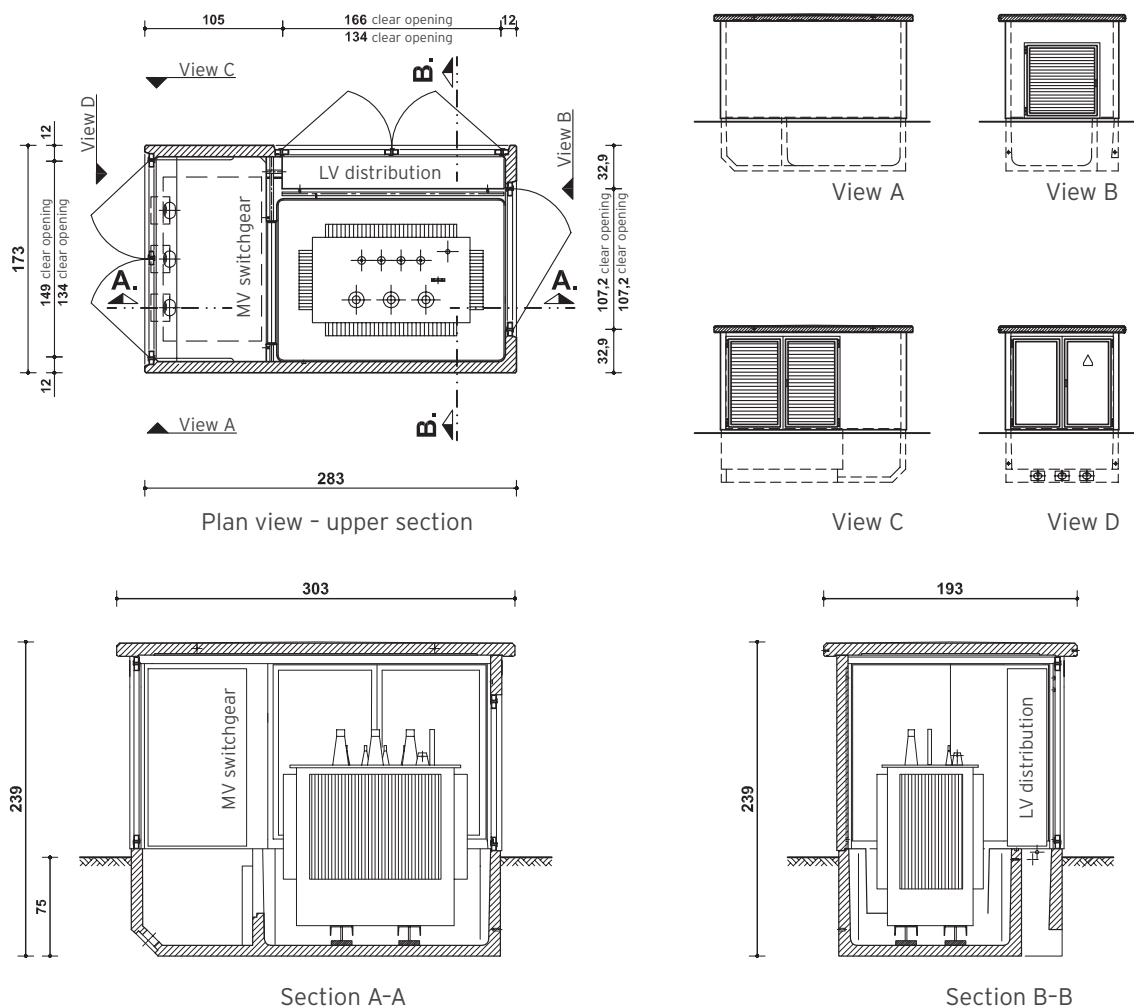
Supplied with full complement of electrical equipment,  
ready for connection

Various options for external cladding design

Transport and installation using in-house technology

**COMPETENCY**  
RIGHT FROM  
THE START

Technical drawing GKP-S1



## TECHNICAL DATA FOR GKP-S1

Enclosure class:	K10 / K15 / K20 (depending on transformer dissipation class)
Protection rating:	IP23D as per EN 62271-202 (higher protection rating optionally available)
External dimensions:	W x D x H = 2,830 x 1,730 x 2,390 mm (plus 100 mm roof overhang all round)
Installation depth in basement:	approx. 750 mm
Height above ground level:	approx. 1,640 mm
Weight (total empty weight):	approx. 5.6 t (including approx. 1.2 t roof weight)
Lifting fittings:	substation anchors: 4 x RD30 / roof anchors: 4 x RD16

## MAXIMUM NUMBER OF INSTALLED COMPONENTS

### Transformer:

$P_{\max}$	= 630 kVA <sup>(1)</sup>
$L_{\max}$	= 1,680 mm
$H_{\max}$	= 2,100 mm
$W_{\max}$	= 1,150 mm (standard)
$W_{\max}$	= 1,000 mm (optional)

### MV switchgear:

	SF6 gas-insulated, up to 4 bays
$W_{\max}$	= 1,450 mm
$H_{\max}$	= 1,400 mm
$D_{\max}$	= 850 mm

### LV distribution:

	Rack distribution panel
$W_{\max}$	= 1,600 mm
$H_{\max}$	= 1,400 mm
$D_{\max}$	= 300 mm (standard)
$D_{\max}$	= 400 mm (optional)

<sup>(1)</sup> An 800 kVA variant of the substation is available on request.



## 1. SUBSTATION DESCRIPTION

The GKP-S1 compact substation is a space-saving general-purpose transformer and customer substation with a wide range of configuration options. It is designed for use in the power range up to 630 kVA (optionally 800 kVA). The substation is manufactured in compliance with the relevant standards and regulations, including IEC, DIN, VDE and UVV, and the following standards in particular:

- IEC 62271-202 (VDE 0671-202)
- DIN 1045:2008-08
- 26<sup>th</sup> BimSchV
- WHG (German Water Resources Act)

The substation has been successfully arc tested with all established switchgear manufacturers, including ABB, Schneider Electric, Ormazabal, Siemens and others.

## 2. CONSTRUCTION

The body of the station consists of two monolithically prefabricated concrete elements (body and roof). The MV cables are fed in using a watertight entry system (eg Hauff). An open cable entry slot in the basement allows to enter with the LV cables. It is also possible to feed in the MV cables through an open entry duct with a fixed attachment plate.

## 3. DOORS AND VENTILATION

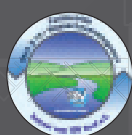
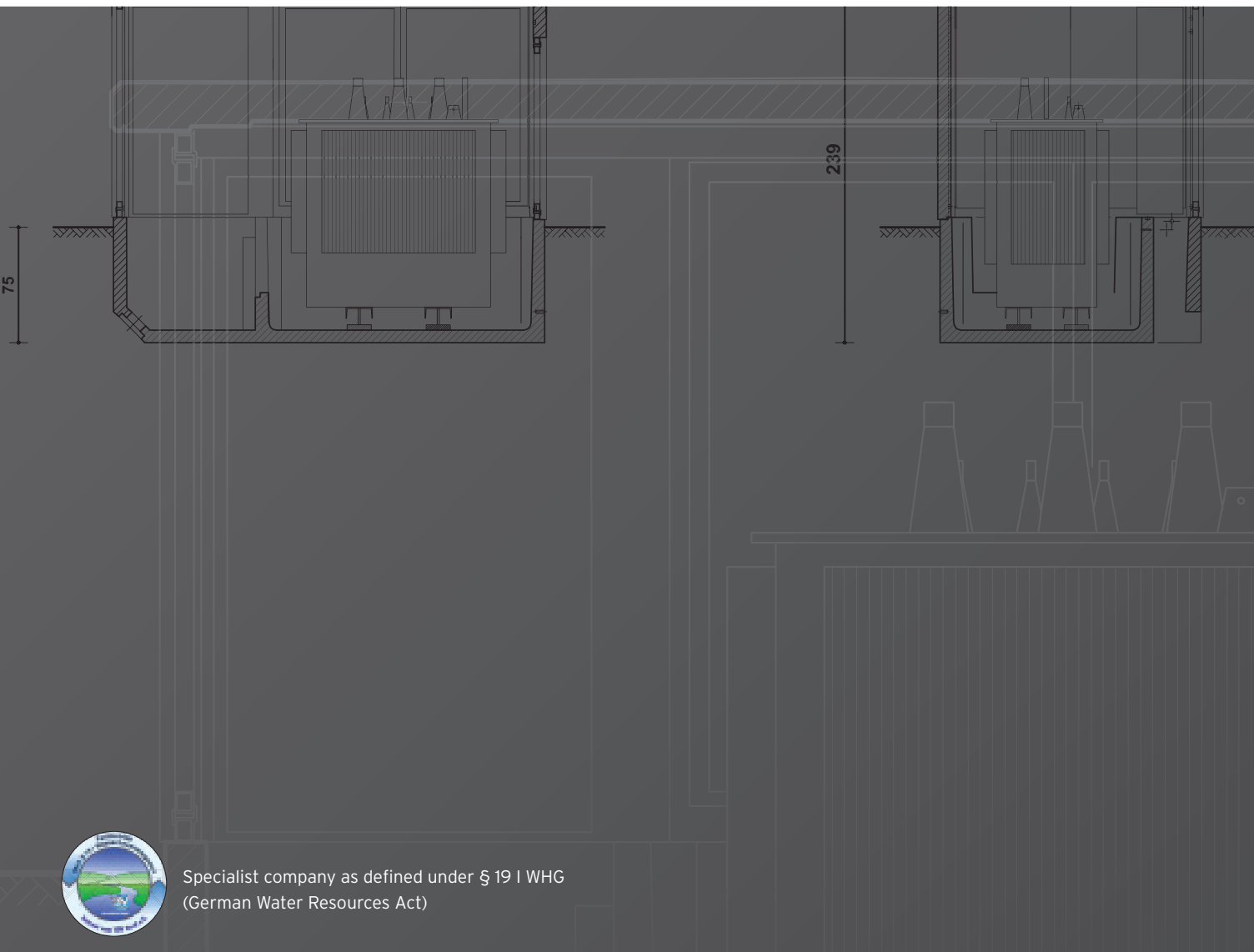
All substation doors and ventilation components made by us can be manufactured from either galvanised steel or aluminium, depending on the customer's choice. The doors are equipped with door stops, copper earthing straps and swivel lever locks for either one or two profile cylinders. Two-point interlocking systems for each door leaf allow the doors to be closed without any risk of arcing. The ventilation grills are pick-proof and can be optionally fitted with stainless steel insect screens.

## 4. ELECTRICAL EQUIPMENT

Fitting of the electrical equipment of the substation, including the medium voltage switchgear, transformer, low voltage distribution metering panel, MV and LV cables, earthing, etc. is performed at the factory according to customer specifications in compliance with IEC 62271-202.

## 5. TRANSPORT & INSTALLATION

The substation is delivered by truck to the site as a complete unit ready for connection and is set down in the foundation pit with the aid of a truck-mounted or mobile crane. Four lifting points in the base are provided for lifting the substation.



Specialist company as defined under § 19 I WHG  
(German Water Resources Act)

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